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Application Number 10/791,377 Filing Date March 2, 2004 **FORM** First Named Inventor Marcos Dantus et al. (to be used for all correspondence after initial filing) Art Unit 2878 **Examiner Name** Total Number of Pages in This Submission Attorney Docket Number 6550-000057/CPE ENCLOSURES (check all that apply) After Allowance Communication to Fee Transmittal Form ☐ Drawing(s) **Technology Center (TC)** Appeal Communication to Board of Fee Attached Licensing-related Papers Appeals and Interferences Petition Appeal Communication to TC Amendment / Reply (Appeal Notice, Brief, Reply Brief) Petition to Convert to a After Final Proprietary Information Provisional Application Power of Attorney, Revocation Affidavits/declaration(s) ☐ Status Letter Change of Correspondence Address Terminal Disclaimer Other Enclosure(s) Extension of Time Request (please identify below): Request for Refund 28 sheets of Form PTO-1449 Express Abandonment Request 2 Foreign Patent Documents CD, Number of CD(s) 334 Other Documents Supplemental Information Disclosure Statement The Commissioner is hereby authorized to charge any additional Certified Copy of Priority Remarks Document(s) fees that may be required under 37 CFR 1.16 or 1.17 to Deposit Account No. 08-0750. A duplicate copy of this sheet is enclosed. Response to Missing Parts/ Incomplete Application Response to Missing Parts under 37 CFR 1.52 or 1.53 SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT Firm Reg. No. Attorney Name Harness, Dickey & Pierce, P.L.C. Monte L. Falcoff 37.617 Individual name Signature Date July 26, 2005

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PATENT

N THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.:

10/791,377

Filing Date:

March 2, 2004

Applicant:

Marcos Dantus et al.

Group Art Unit:

2878

Examiner:

Title:

LASER SYSTEM USING ULTRA-SHORT LASER PULSES

Attorney Docket:

6550-000057/CPE

Director of the United States Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §§ 1.56, 1.97 and 1.98, Applicant hereby submits an Information Disclosure Statement for consideration by the Examiner.

I. <u>LIST OF PATENTS, PUBLICATIONS, AND OTHER INFORMATION</u>

The patents, publications and other information requested to be considered by the Office (except unpublished U.S. patent applications) are listed on Form 1449 attached hereto.

II. <u>COPIES</u>

A. Submitted herewith is a legible copy of (i) each foreign patent; (ii) each publication or that portion which caused it to be listed, other than U.S. patents and U.S. patent application publications unless required by the Office; (iii) each unpublished U.S. application listed below in Section IV (i.e., including the specification, claims, and any drawing of the application, or that portion of the application which caused it to be listed, including any claims directed to that portion), except for such applications filed on or after June 30, 2003, pursuant to the Waiver of the Copy Requirement in 37 C.F.R. 1.98 (OG Notice dated October 19, 2004); and (iv) all other information or that portion which caused it to be listed.

	B. Any patents, publications or other info 1449 or on the copies of PTO-892, but which previously cited by or submitted to the PTO in which has been relied upon for an earlier filing	n are not enclosed herewith, were no one of the following applications
	U.S. Serial Number	U.S. Filing Date
	C. This is a PCT application in the entry of States. A copy of the International Search Repinformation. The documents listed on the International Search Repinformation. The documents listed on the International Action In the attached Form 1449 for consideration I any patent resulting from this application. If the from the US, EPO, or JPO search authorities, have been supplied to the USPTO under believed to be in the file of the above-identified	port is attached for the Examiner's ernational Search report are listed by the Examiner and for listing on the International Search report was copies of these references should the trilateral agreement and are
III.	CONCISE EXPLANATION OF THE RELEVAN	CE (check <u>at least</u> one box)
	A. Except as may be indicated below in (B) other information are in the English language (c)), all of the patents, publications or concise explanation not required).
	B. A concise explanation of the relevance of information listed that is not in the English lang § 1.98(a)(3)):	of each patent, publication or other guage is as follows (see 37 C.F.R.
	 See the attached foreign pater counterpart foreign application: International Preliminary Examination Re 	
	2. English translations are provided:	
	3. Other:	
	C. The following additional information consideration.	is provided for the Examiner's

Serial No. 10/791,377

V.	CROSS REFERENCE	TO RELATED APPLICA	TION(S)	
	contain(s) subject ma bringing this(these) ap	tter that may be related	lowing co-pending application the present application ner's attention, Applicant(source) U.S.C. § 122.	n. By
	Serial No.	Filing Date	Art Unit	
V .	THIS IDS IS BEING F	LED UNDER		
	A. 🔀 37 C.F.R. § 1.97	(b): (check only one box)		
	than a continue	ee months of the filing da ed prosecution application fee or certification is requ	ate of a national application under § 1.53(d) (37 Cuired.	n other .F.R. §
	2. within thre forth in § 1.491 fee or certificati	in an international applica	entry of the national stage ation (37 C.F.R. § 1.97(b)(2	as set 2)). No
	1.97(b)(3)). No Office Action o under 37 C.F.F 1.97(e) below;	o fee or certification is rein the merits has been in the merits has been in the feet of t	Action on the merits (37 Cequired. In the event that ssued, please consider the certification under 37 Cepter been made, charge our las required by 37 C.F.R. §	t a first nis IDS .F.R. § deposit
	4. Defore the for continued exist required.	e mailing of a first Office a camination under 37 C.F.	Action after the filing of a R. § 1.114. No fee or certi	request fication
	B. 37 C.F.R. § 1.97	(c): (check only one box)		
	before the maili 1.113, a Notice otherwise close	of Allowance under 37	al Office Action under 37 C C.F.R. § 1.311, or an acti	F.R. § on that
	1. No certific by 37 C.F.R. §	ation; therefore, a fee in t	the amount of \$180.00 is re	∍quired
	2. \square See the c	ertification below. No fee	is required	

	C. 37 C.F.R. § 1.97(d):
	after the mailing date of either a Final Office Action under 37 C.F.R. § 1.113 or a Notice of Allowance under 37 C.F.R. § 1.311, yet on or before payment of the issue fee.
	1. \square See the certification below. A fee in the amount of \$180.00 is required by 37 C.F.R. § 1.17(p).
VI.	CERTIFICATION UNDER 37 C.F.R. § 1.97(e): (check only one box)
	The undersigned hereby certifies that:
	A. each item of information contained in this IDS was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS (See 37 C.F.R. § 1.97(e)(1)). See further statement under 37 C.F.R. 1.704(d) below in section VII, if applicable; or
	B. no item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this IDS was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this IDS (See 37 C.F.R. § 1.97(e)(2)).
	C. some of the items of information were first cited in a communication from a foreign patent office. As to this information, the undersigned hereby certifies that each item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS. As to the remaining information, the undersigned hereby certifies that no item of this remaining information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this IDS was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this IDS.
VII.	STATEMENT UNDER 37 C.F.R. 1.704(d)
	The undersigned hereby states that:
	each item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this IDS.

Serial No. 10/791,377

VIII. PAYMENT OF FEES (check only one box)

- A. A check in the amount of \$180.00 is enclosed for the above identified fee.
- B. Please charge Deposit Account No. 08-0750 in the amount of \$180.00 for the above-indicated fee. A duplicate copy of this paper is attached.

The above references are being cited only in the interest of candor and without any admission that they constitute statutory prior art, contain matter which anticipates the invention, or which would render the same obvious, either singly or in combination, to a person of ordinary skill in the art. Furthermore, this Information Disclosure Statement shall not be construed as a representation that a search has been made.

If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule (with a petition if necessary) and charge the appropriate fee to Deposit Account No. 08-0750.

Please charge any additional fees or credit any overpayment pursuant to 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. 08-0750.

Respectfully submitted,

Dated: <u>July 26, 2005</u>

Monte L. Falcoff

Reg. No. 37,617

Harness, Dickey & Pierce, P.L.C. P.O. Box 828 Bloomfield Hills, Michigan 48303 (248) 641-1600

MLF/lkj

Attachment to 28-Page 1449 Form Listing 334 Other Documents

Categorization of References*

references 1-25

references 26-64

references 65-162

herent Control, Molecular Control, and/or Ionization: Measurement of Laser

Pulses

Coherent Control, Molecular Control,

and/or Ionization: Theory

Coherent Control, Molecular Control,

and/or Ionization: Experiments In Control

Measurement Apparatuses references 163-173

references 174-176 MALDI

reference 177 Microfabrication

Communications references 178-179

references 180-181 Computer Systems

Phase Measurement and/or Pulse references 182-232

Characterization

references 233-243 Pulse Generation and/or Amplification

references 244-245 Measurement Involving Tissue

references 246-253 Quantum Mathematical Algorithms and

Theory, Genetic Learning Algorithms

Control of Chemical Reactions references 254-285

references 286-301 Review of Coherent Control

references 302-326 Laser Pulse Control / Pulse Shaping

references 327-334 Genetic Learning Algorithms

^{*}These categories are intended to assist the examiner in initial sorting of references by showing their primary relevance to the noted technology area but may also have some relevance to other technology areas claimed and considerable overlap between technology areas. Nevertheless, the Examiner is requested to review all of the cited references and make his/her own relevancy determination.



PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Sheet 1 of 28

ATTORNEY DOCKET No.	SERIAL NO.
6550-000057/CPE	10/791,377
APPLICANT	
Marcos Dantus et al.	
FILING DATE	GROUP
March 2, 2004	To Be Assigned

U.S. PATENT DOCUMENTS						
Ref. Desig.	Examiner's Initials	Document Number	Date	Name	Class/ Subclass	(If appropriate) Filing Date
1.		4,288,691	09/08/1981	Horton		
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13.		6,723,991	04/20/2004	Sucha et al.		
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17.		2004/0263950	12/30/2004	Fermann et al.		
18.		2005/0036202	02/17/2005	Cohen et al.		

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Sheet 2 of 28

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FOREIGN PATENT DOCUMENTS							
Ref. Desig.	Examiner's Initials	Document Number	Date	Country	Class/ Subclass	Translation Yes	No No
1.		WO 99/57318	11/11/1999	US (PCT)		N/A	
2.		WO 01/54323	07/26/2001	US (PCT)		N/A	

OTHE	R DOCUME	NTS (including Author, Title, Date, Pertinent Pages, etc.)
Ref. Desig.	Examiner's Initials	
1.		Dong Gun Lee et al.; "Coherent Control of High-Order Harmonics with Chirped Femtosecond Laser Pulses"; Physical Review Letters, Vol. 87, No. 24, December 10, 2001; pgs. 243902-1-243902-4.
2.		M. Armstrong et al.; "Versatile seven-femtosecond pulse compressor of parametrically amplified pulses using adaptive optics: studies of the primary events in protein dynamics"; Applied Physics B 74 (Suppl), 2002; pgs. S127-S132.
3.		D.S. Chemla et al; "Ultrafast phase dynamics of coherent emission from excitons in GaAs quantum wells"; Physical Review B, Vol. 50, No. 12, September 15, 1995; pgs 8439-8453.
4.		Jerome Tignon et al.; "Spectral Interferometry of Semiconductor Nanostructures"; IEEE Journal of Quantum Electronics, Vol. 35, No. 4; April 1999; pgs. 510-522.
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9.		Ch. Warmuth et al.; "Studying vibrational wavepacket dynamics by measuring fluorescence interference fluctuations"; Journal of Chemical Physics, Vol. 112, No. 11; March 15, 2000; pgs. 5060-5069.

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Sheet 3 of 28

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FILING DATE	GROUP
March 2, 2004	To Be Assigned

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11.		G.G. Paulus et al.; "Absolute-phase phenomena in photoionization with few-cycle laser pulses"; Nature, Vol. 414; November 8, 2001; pgs. 182-184.
12.		Yaron Silberberg; "Physics at the attosecond frontier"; Nature, Vol. 414, November 29, 2001; pgs. 494-495.
13.		M. Hentschel et al.; "Attosecond metrology"; Nature, Vol. 414; November 29, 2001; pgs. 509-513.
14.		L. Lepetit et al.; "Linear techniques of phase measurement by femtosecond spectral interferometry for applications in spectroscopy"; J. Opt. Soc. Am. B, Vol. 12, No. 12; December 1995; pgs. 2467-2474.
15.		L. Lepetit et al.; "Two-dimensional nonlinear optics using Fourier-transform spectral interferometry"; Optics Letters, Vol. 21, No. 8; April 15, 1996; pgs. 564-566.
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21.		Christophe Dorrer; "Influence of the calibration of the detector on spectral interferometry"; J. Opt. Soc. Am. B; Vol. 16, No. 7; July 1999; pgs. 1160-1168.
22.		Allison W. Albrecht et al.; "Experimental distinction between phase shifts and time delays: Implications for femtosecond spectroscopy and coherent control of chemical reactions"; Journal of Chemical Physics, Vol. 111, No. 24; December 22, 1999; pgs. 10934-10955.

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Sheet 4 of 28

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26.		Richard S. Judson et al.; "Teaching Lasers to Control Molecules"; Physical Review Letters, Vol. 68, No. 10; March 9, 1992; pgs. 1500-1503.
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31.		Moshe Shapiro et al.; "On the Origin of Pulse Shaping Control of Molecular Dynamics'; J. Phys. Chem. A, Vol. 105, No. 105; 2001; pgs. 2897-2902.
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33.		Bern Kohler et al.; "Mode-Locking Matter with Light"; J. Phys. Chem 1993, 97; pgs. 12602-12608.
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36.		Jeffrey L. Krause et al.; "Quantum Control of Molecular Dynamics: The Strong Response Regime"; J. Phys. Chem; 1995, 99; pgs. 13736-13747.

Examiner:	Date Considered:	
Examiner.	Date Considered.	

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Sheet 5 of 28

ATTORNEY DOCKET No.	SERIAL NO.
6550-000057/CPE	10/791,377
APPLICANT	
Marcos Dantus et al.	
FILING DATE	GROUP
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OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, etc.)		
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37.		Jianwei Che et al.; "Detection and Control of Molecular Quantum Dynamics"; J. Phys. Chem.; 1995; pgs. 14949-14958.
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39.		Jianwei Che et al.; "Semiclassical Dynamics and Quantum Control in Condensed Phases: Application to 12 in a Solid Argon Matrix"; J. Phys. Chem. 1996, 100; pgs. 7873-7883.
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49.		V.S. Malinovsky et al.; "General theory of population transfer by adiabatic rapid passage with intense, chirped laser pulses"; The European Physical Journal D 14; 2001; pgs. 147-155.
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Sheet 6 of 28

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March 2, 2004	To Be Assigned

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51.		Sanislav S. Bychkov et al.; "Laser coherent control of molecular chiral states via entanglement of the rotational and torsional degrees of freedom"; Journal of Raman Spectroscopy; 2002; pgs. 962-973.
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